In the Claims:

1.   (Currently amended) A processor readable medium ~~storing~~encoding at least <u>one</u> command ~~within and conforming to a command instruction set~~ for a packet data modification processor,

the <u>at least one</u> command ~~instruction set having a format in which~~specifying a packet address <u>for a first packet, the packet address</u> ~~, if present, is specified in terms of~~comprising a first portion representing ~~an encapsulated~~a <u>pointer to a</u> layer of the <u>first</u> packet and a second portion representing a location within that ~~encapsulated~~ layer; and

the at least one command ~~specifies~~specifying ~~deriving~~forming, modifying or replacing at least a portion of ~~a~~the first packet<u>, located at the packet address,</u> ~~from~~based on or using data ~~taken~~derived from a second packet or the command<u> itself</u>.

2.   (Currently amended) The processor readable medium of claim 1 wherein the at least one command specifies forming, <u>modifying or replacing</u> the at least a portion of the first packet ~~from~~based on unmodified data<u>, the unmodified data comprising data</u> taken without modification from the second packet or the command<u> itself</u>.

3.   (Currently amended) The processor readable medium of claim 1 wherein the at least one command specifies <u>forming, modifying or replacing</u> the at least a portion of the first packet ~~from~~based on data taken from the second packet or the command <u>itself,</u> and then modified through one or more modifications.

4.   (Previously presented) The processor readable medium of claim 3 wherein the one or more modifications comprises masking the data with a mask.

5.   (Previously presented) The processor readable medium of claim 3 wherein the one or more modifications comprises incrementing the data.

6.   (Previously presented) The processor readable medium of claim 3 wherein the one or more modifications comprises decrementing the data.

7.   (Previously presented) The processor readable medium of claim 3 wherein the one or more modifications comprises one or more arithmetic operations.

8.   (Previously presented) The processor readable medium of claim 3 wherein the one or more modifications comprises one or more logical operations.

9.   (Previously presented) The processor readable medium of claim 3 wherein the one or more modifications comprises deleting a portion of the data.

10.   (Previously presented) The processor readable medium of claim 2 wherein the at least one command specifies inserting the unmodified data into the first packet without overwriting existing packet data.

11.   (Previously presented) The processor readable medium of claim 2 wherein the at least one command specifies replacing existing data in the first packet with the unmodified data.

12.   (Previously presented) The processor readable medium of claim 3 wherein the at least one command specifies inserting the data as modified into the first packet without overwriting existing packet data.

13.   (Previously presented) The processor readable medium of claim 3 wherein the at least one command specifies replacing existing data in the first packet with the unmodified data.

14.   (Previously presented) The processor readable medium of claim 1 wherein the first and second packets are the same.

15.   (Previously presented) The processor readable medium of claim 1 wherein the first and second packets are different.

16.   (Previously presented) The processor readable medium of claim 1 wherein the at least one command is a TTL decrement command.

17.   (Previously presented) The processor readable medium of claim 1 wherein the at least one command is a TC increment command.

18.   (Previously presented) The processor readable medium of claim 1 wherein the at least one command is a macro.

19.   (Previously presented) The processor readable medium of claim 18 wherein the macro is a replace MAC DA/replace MAC SA/replace VLAN macro.

20.   (Previously presented) The processor readable medium of claim 18 wherein the macro is a replace MAC DA/replace MAC SA/strip VLAN macro.

21.   (Previously presented) The processor readable medium of claim 2 wherein the unmodified data forms a fragment of the first packet.

22.   (Previously presented) The processor readable medium of claim 21 wherein the fragment has a predetermined granularity.

23.   (Previously presented) The processor readable medium of claim 3 wherein the data as modified forms a fragment of the first packet.

24.   (Previously presented) The processor readable medium of claim 23 wherein the fragment has a predetermined granularity.

25.   (Previously presented) The processor readable medium of claim 21 wherein the fragment is one of several fragments forming the first packet.

26.   (Previously presented) The processor readable medium of claim 23 wherein the fragment is one of several fragments forming the first packet.